

Kraus Telemetry

<http://www.kraustelemetry.com/data-recorder/d-2-16/d2-16-e.htm>

D-2/16 - Mobile mini DAT recorder

A small device for extremely hard applications

Smallest 16 channel DAT recorder of the world for record and playback of analog signals up to 16 kHz per channel

The D-2/16 DAT Recorder is small and powerful. The physical size has a major advantage over larger units. Due to the small mechanical dimension it can be. This becomes apparent, whenever space or critical positioning is the issue. Good examples are the cramped quarters of building and earth-moving machines, cars and planes. The surveillance's and analysis is done On-line.

A telemetry output, connected to our RF telemetry TS/TE 2.5, transmits the data to a computer. Concurrently, high redundancy recording of raw data takes place within the DAT. With the aid of our REMUS Software all or single channels can be selected and/or presented. The computer freed from the "Data Logging" task can now be utilized for analysis and presentation.

The "Record Commands" can be controlled remotely. The "Record Procedure" is started and terminated with the +5 V and 0 V levels respectively.

Sometimes, especially during long term measurements, continuous recording would be impractical. In this case the "Event-Driven" record control is a powerful tool. Supporting this feature is one "Event Channel". Once an "Event Channel" is activated, a "Record Procedure" of approximately 1 minute is started. This procedure includes the recording of the active event, time and test number.

The D-2/16 DAT can convert data from analog to digital and feed them into computer directly without recording. For this operation the "Tape Bypass" function is used. Just as in recording mode the analog data are filtered and digitized. The data are transferred directly to the computer instead to tape. This is independent upon the tape runs and records data or stays without recording. In this mode the DAT recorder is used as PCM encoder for telemetry transmission.

Another feature is the pulse input DIG In/Out. With that feature any pulses with any sampling relationship from 0 to 20 kHz can be recorded and reproduced. This input is very suitable for PCM signals transmitted via RF telemetry. Data from PCM encoders, input pulses from sensors for revolution or speed, or the recording of simple events are just a few. Optionally an event multiplexer for 16 events is available.

Technical data:

- 16 analog channels; input and output are connected via BNC connectors
- Measuring range +/-5 V with overload indication for each channel
- Resolution 12 Bit, simultaneous sampling of all channels
- Input impedance 100 KOhm, SNR 72 dB

- Over voltage protection +40 V
- Total sampling rate 96 kHz, distributed to selected number of channels (see table)
- 8-pole lowpass Butterworth filter for input and output, avoiding Aliasing effects and smoothing the output signals; damping in locking area 48 dB/Octave
- Analog output impedance 2 Ohme, max. 10 mA, +/-5V
- Programmable for 2 - 4 - 8 - 16 channel mode
- Signal bandwidth max. in 2 channel mode 0 ... 16 kHz (-3dB)
- Serial Interface, suitable for direct transmission even over long cables or for RF- or IR-transmission
- PC Interface plug-in board for all IBM comp. PCs (Option)
- Digital pulse input (TTL), that means pulses from 0 ... 20 kHz can be recorded and reproduced.
- Date and time recording (year- month - day - hour - minute - second)
- Tape length counter for absolute time, programming time, remaining record time.
- Automatic or manual setting of test number
- Fast search run in both directions searching the test number
- Remote control unit with bargraph display, Voice channel and overload indication (option)
- Voice channel with external microphone and built-in loudspeaker, signal bandwidth 60 ... 2800 Hz.
- Recording time 3 hours with a DT180 cassette
- Storing capacity approximate, 2.4 Giga Byte with a DT180 cassette Reproducible accuracy between record and replay at 0 Hz +0,1 %
- Phase error between channels at same frequency <1°.
- Error correction system Double Encoded Reed Solomon Code.
- Bit error rate better 10-10
- Recording format Helical Scan R-DAT
- Illuminated display with following indications: date/time - program i.e. test number - tape length counter for absolute time - program time - remaining record time - indications for functions like record -forward - reverse - tape loaded etc.
- Additional indications like battery level - error condensing water
- Functional buttons on tape deck: FORWARD - REVERSE - PLAY - RECORD -STOP - PAUSE - HOLD
- Remote controllable with TTL-level for START/REC - STOP or/and event controllable with 1 event for blocs of 1 min
- Power supply DC 10 ... 32 V, battery (Option) or mains 220 V +/-10 % AC (Option) 110V AC (Option)
- Power requirement approximate 10 Watt
- Environmental conditions:
Operating temperature range -5 C° to + 45 °C
Storage temperature range -20 °C to + 60 °C
Relative humidity 20 ... 80 % non condensing
Vibration 5g Mil. Standard 810 C, Curve C
Shock 10g in all directions
Size 160 x 90 x 90 mm without shock absorber
Weight 1.5 kg without shock absorber

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